

### THREE NEW DEEP-WATER INDO-PACIFIC AND ONE INTERTIDAL BRAZILIAN SPECIES OF *TEREBRA* (GASTROPODA)

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In 1982 on cruise 32 of R.V. "Marion-Dufresne", under the direction of Dr. A. Guille, terebrid specimens were dredged from fifteen stations off Reunion Island in the Indian Ocean. On board were malacologists Dr. Philippe Bouchet, A. H. Waren, and B. Metivier. Two species new to science were dredged along with several uncommon species. Among them were *Hastula celidonota* (Melville & Sykes, 1898), the only member of the genus with a dark dorsal splotch; *Terebra virgo* Schepman, 1913, a species with a white shell somewhat resembling *T. funiculata* Hinds, 1844; a range extension of *Terebra macatanensis* Bratcher and Cernohorsky, 1982 (the white color form). Those from Reunion Island differ from the typical form by having regular yellowish brown dots between the ribs on the subsutural band while those of the typical form are scattered irregularly. All the specimens mentioned above are in the collection of the Muséum National d'Histoire Naturelle of Paris.

A large new terebrid species, 97.6 × 14.4 mm, was dredged off the coast of Natal, South Africa, in 1983. The eastern continental shelf off South Africa, where this species was found, has barely been studied. The shelf was last dredged in 1901, other than incidental hauls made by Dr. R. N. Kilburn of the Natal Museum and Dr. Allan Connell. (Dr. R. N. Kilburn, *pers. comm.*) This no doubt is the explanation of why so large a species has remained undiscovered until the present time.

The third new species is from the Western Atlantic and has been collected intertidally to 30 m. It has been misidentified by dealers and others as *T. doellojuradoi* Carcelles, 1953.

Family **Terebridae** Mörch, 1852

*Terebra* Bruguière, 1789

*Terebra* Bruguière, Enycl. Meth. Hist. Nat. Vers 1: xv. *Type species* by SD (Lamarck, 1799): *Buccinum subulatum* Linnaeus, 1767. Recent; Indo-Pacific.

#### *Terebra pseudopertusa*

Bratcher & Cernohorsky, *sp. nov.*

(Figs. 4, 5)

*Diagnosis:* A terebrid similar to *Terebra pertusa* (Born, 1778), but with the shell having mamillate protoconch and an extra row of squarish, brown maculations below the subsutural band and at the periphery of the body whorl.

*Description:* Shell shiny, of moderate size for the genus with 13 whorls in the teleoconch; protoconch of 1½ mamillate whorls; outline of whorls straight; subsutural band defined by a groove and with punctations between the ribs; axial ribs sharp, 15 on penultimate whorl, with wide interspaces; interspaces with 5 spiral grooves not crossing ribs; body whorl with ribs fading out at periphery, smooth below; aperture quadrate; columella slightly recurved; color yellowish with dark-brown maculations between white-topped ribs on the subsutural band and at the periphery of the body whorl.

*Dimensions:* Holotype 36.1 × 6.2 mm; paratypes from 10.4 × 2.4 to 36.2 × 6.3 mm.

*Type Locality:* Reunion Is., Indian Ocean (21°06'S, 55°01'E) at 80-83 m depth.

*Type Material:* Holotype and 6 paratypes in MNHNP; 1 paratype in the Bratcher collection.

*Distribution:* From South Africa to Papua New Guinea, in depths to 110 m.

*Discussion:* This species was originally thought to be a color form of *T. pertusa* (Born, 1778), until a specimen was examined with its mamillate protoconch intact. All specimens with the extra row of maculations subsequently examined also possessed paucispiral protoconchs. *T. pertusa* has a multispiral protoconch, always lacks the additional rows of maculations, and grows to a much larger size (97.5 mm) than any specimens of this species examined.



FIGS. 1-6. 1, *Terebra riosi* Bratcher & Cernohorsky, new species. Holotype LACM no. 1974.  $9.8 \times 2.5$  mm. 2 and 6, *Terebra connelli* Bratcher & Cernohorsky, new species. Holotype Natal Museum no. C4715.  $97.6 \times 14.4$  mm. 3, *Terebra reunionensis* Bratcher & Cernohorsky, new species. Holotype MNHNP.  $13.2 \times 2.2$  mm. 4 and 5, *Terebra pseudopertusa* Bratcher & Cernohorsky, new species. Holotype MNHNP.  $36.1 \times 6.2$  mm.

***Terebra reunionensis***Bratcher & Cernohorsky, *sp. nov.*

(Fig. 3)

*Diagnosis:* A small slender brown terebrid with no subsutural band and with numerous thin riblets.

*Description:* Shell small, slender, with 18 whorls in the teleoconch; protoconch of 3 conical whorls; outline of whorls flat; no subsutural band; axial ribs faintly curved, equal to the width of the interspaces, extending from suture to suture, 18 on penultimate whorl; spiral threads in interspaces numerous, 10 on penultimate whorl, lightly crossing ribs, fading below periphery of body whorl; aperture elongate; columella slightly curved; color light brownish beige.

*Dimensions:* Holotype 13.2 × 2.2 mm; paratypes 13.6 × 2.5 mm and 12.7 × 2.5 mm.

*Type Locality:* Reunion Island, Indian Ocean (21°05'S, 55°12'E), in depths of 170-225 m.

*Type Material:* Holotype and one paratype in the MNHNP; one paratype in the Bratcher coll.

*Distribution:* Reunion Island, Indian Ocean, in depths of 110 to 225 m.

*Discussion:* This is one of the most slender of the small Indo-Pacific terebrids. *Terebra contracta* (E. A. Smith, 1873) may be separated from this species by its brown aperture and columella, its turreted outline and more elongate body whorl.

There is little variation in the three specimens of this species which were collected from two localities at Reunion, except that the spiral threads on one specimen are missing from the anterior third of the last three whorls only.

***Terebra connelli***Bratcher & Cernohorsky, *sp. nov.*

(Figs. 2 and 6)

*Diagnosis:* A beige and brown terebrid with no spiral sculpture except for a deep subsutural groove, and with heavy, crowded posteriorly protracted axial ribs both on subsutural band and remainder of whorl.

*Description:* Shell robust, large for the genus (97.6 mm, nearly 4 inches), with 28 whorls remaining, apex missing; outline of whorls shouldered below convex subsutural band; band with round nodes on early whorls, becoming strong ribs later, occupying about 1/3 of the whorl, de-

fined below by a moderately deep groove; axial ribs on remainder of whorl rounded, strong, crowded, the same strength and width as those on band, straight on early whorls, curved later, 31 on penultimate whorl; spiral sculpture absent except for a narrow, fine cord below the axial ribs immediately above the suture; body whorl short, with ribs ending abruptly at periphery; aperture quadrate; columella recurved; siphonal fasciole striate, defined by a keel; color brownish beige stained with darker areas and with a nebulous brown area anterior to periphery of body whorl.

*Dimensions:* Holotype 97.6 × 14.4 mm; paratype 50.5 × 9.0 mm.

*Type Locality:* Off Umhlanga Rocks, Natal, South Africa, 116 m depth.

*Type Material:* Holotype Natal Museum no. B6307; paratype Natal Museum no. C4715.

*Distribution:* Natal, South Africa.

*Discussion:* In both specimens the ribs on the band and remainder of the whorl have the appearance of polished antique ivory. The only species with which this can be compared is *Terebra pretiosa* Reeve, 1842, which also has numerous heavy ribs, but that species has longer whorls, a flatter subsutural band defined by deep punctations, and its color is yellowish beige marked with dark-brown maculations.

This species is named in honor of Dr. Allan Connell, who dredged the holotype.

***Terebra riosi***Bratcher & Cernohorsky, *sp. nov.*

(Fig. 1)

*Diagnosis:* A very small, cream-colored Western Atlantic terebrid with purplish brown anterior to the periphery of the body whorl and a purple-brown subsutural line.

***Synonymy:***

1984 *Terebra doellojuradoi* Carcelles, Aubry, Terebridae pl. 9, upper left [not Carcelles, 1953].

*Description:* Shell very small (8 to 10 mm) for the genus with 8 teleoconch whorls plus a protoconch of 3½ amber, conical whorls; outline of whorls faintly turreted; subsutural band marked only by a nebulous purplish brown line on early whorls, 2 rows of weak nodes with the nebulous line in the center appearing later; no subsutural groove; axial ribs sharp, narrower than interspaces, in early whorls unbroken from suture to



suture, subsutural nodes developing later, 15 on penultimate whorl; fine spiral grooves evenly spaced, 5 on penultimate whorl, not crossing summit of ribs; body whorl with axial ribs ending at periphery, spiral grooves continuing to siphonal fasciole, aperture quadrate; columella brown, slightly curved; color yellowish cream, almost translucent, with a nebulous purplish brown subsutural line which appears to be under translucent enamel, light purplish brown anterior to periphery of body whorl; columella dark-brown.

*Dimensions:* Holotype 9.8 × 2.5 mm; paratypes from 8.1 × 2.3 mm to 10.2 × 2.6 mm.

*Type Locality:* Buzios, Cabo Frio, Rio de Janeiro, Brazil, intertidal in sand.

*Type Material:* Holotype Los Angeles County Museum of Natural History no. 1974; 3 paratypes Museu Oceanografico de Rio Grande no 21.278; 1 paratype Bratcher coll.

*Distribution:* Atlantic coast of central Brazil, intertidal to 30 m.

*Discussion:* This species has been misidentified by dealers and Aubry (1984) as *Terebera doellojuradoi* Carcelles, 1953, which has a protoconch of 1½ whorls, a teleoconch with cancellate

sculpture, a subsutural band marked by punctations or square pits between the ribs, and no brownish subsutural line nor brownish area below the periphery of the body whorl.

This species is named in honor of Prof. E. C. Rios of Brazil, who first brought it to our attention.

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### SUCCINEA VAGINACONTORTA LEE (GASTROPODA: PULMONATA: SUCCINEIDAE)

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#### ABSTRACT

*On the bases of shell characters, geographic distribution, and habitats Succinea vaginacontorta Lee is a valid species and not a synonym of Succinea indiana Pilsbry.*

#### Synonymy:

*Succinea vaginacontorta* Lee, 1951. *Occas. Pap. Mus. Zool. Univ. Mich.* No. 533, 1-7, pl. 2, text fig. 1; Miles, 1958, *Univ. Kans. Sci. Bull.* Vol. XXXVIII, Pt. II, No. 24, 1517-1519, Pl. 1C, fig. 4; Leonard, 1959, *Handbook of Gastropods in Kansas*, *Mus. Nat. Hist. Misc. Pub.* 20, 155-158, pl. 9, fig. 3; Franzen, 1971, *Nautilus* 84(4), 131-142, tables 2, figs. 3.

*Succinea indiana* Pilsbry. Hubricht, 1961, *Nautilus* 72(2), insert in reprint, p. 60.

*Succinea indiana* Pilsbry. Hubricht, 1985. *Fieldiana Pub.* No. 1359: 15, Map p. 117.

The employment of anatomical structures of soft parts, radulae, pigmentation patterns as well as shell characteristics is generally essen-